

REMARKS

The present remarks are in response to the Office Action dated September 6, 2005. Claims 1-32 are now pending in this case. No claims have been amended in the present response. However, all claims are included herewith for the Examiner's convenience.

The applicants wish to express their appreciation to the Examiner for the withdrawal of finality of the prior Office Action. The applicants further wish to express their appreciation to the Examiner for the Examiner's indication that claims 4-10 and 14-21 contain allowable subject matter and would be allowable if rewritten in independent form. However, as discussed below, the claims are believed allowable in their present form.

Claims 1-3, 11-13, and 22-32 stand rejected under 35 U.S.C. § 102(a) as anticipated by a non-patent publication by Makam et al. The applicants respectfully request removal of Makam as a reference. The present application claims priority from U.S. Application No. 09/395,831, filed on September 14, 1999. This predates the November 2000 publication date of Makam.

In a previous Office Action, it was asserted that the priority document did not support the claimed invention. However, a careful reading of that priority document discloses full support for the method recited, by way of example, in claim 1. U.S. Application No. 09/395,831 describes protection switching in an asynchronous transfer mode (ATM) network. As described on page 10 of the priority document, "Protection switching is a process where an alternate path (protection path) is provided in addition to the path in use, whenever an impairment is detected on the path is (sic) use (working path)." (See Application No. 09/395,831, page 10, lines 19-20.) One skilled in the art will appreciate that a computer network inherently involves communication between network nodes. Thus, the priority document clearly describes the step of establishing a working network path and a protection network path between first and second nodes.

The priority document further recites switching traffic from the working network path to the protection network path when traffic congestion is detected in the working network path that exceeds a predetermined threshold. (See Application No. 09/395,831, Figure 6 and page 15, lines 5-11.)

Thus, claim 1 of the present application is entirely supported by the disclosure in the priority document with the exception of the implementation in a virtual private network. To the extent that a VPN is inherent in the MLPS, as asserted in the Office Action, a VPN network is also inherent in an ATM protocol. One skilled in the art would realize that the teachings in the priority document would be applicable to a VPN. This position is further supported by a definition of a virtual private network which is a wide area network “formed of permanent virtual circuits (PVCs) on another network, especially a network using technologies such as ATM or frame relay.” Microsoft Computer Dictionary, 5th ed., Microsoft Press, Redmond, Washington, © 2002, Microsoft Corporation. Thus, one skilled in the art relying on the priority document would find full support for claim 1 of the present application. Therefore, the priority document provides support for the claimed invention. Accordingly, Makam should be removed as a reference.

Even if one carefully considers the teachings of Makam, the reference does not teach or even suggest the claimed invention. The Office Action states that Makam discloses protection switching in a MPLS network and asserts that VPN is inherent in the MPLS network of Figure 1. The Office Action further asserts that Makam discloses establishing a working network path and a protection network path between first and second nodes and switching traffic from the working network path to the protection network path when traffic congestion is detected in the working network path that exceeds a predetermined threshold. This is incorrect.

First, the Office Action asserts that a VPN network is inherent in an MPLS network. To that extent, a VPN network is also inherent in the ATM network described in U.S. Application No. 09/395,831, from which priority is claimed in the present application. As noted above, the priority document provides detailed description of a working network path and a protection network path and switching traffic from the working network path to the protection path in the event of congestion.

Furthermore, Makam is directed to a protection pathway in the event of a communication failure. Examples of detected failures are provided on page 5 of Makam. It is important to note that traffic congestion is not considered to be a failure condition in Makam. The thresholds noted in the Office Action and discussed in Makam

on page 12 relate to time out periods related to the network failure modes, but is unrelated to any traffic congestion threshold measurement. Thus, nothing in Makam suggests any equivalence between traffic congestion and network failure. However, such equivalence is stated in the priority document, U.S. Application No. 09/395,831. The method described in that document “treats the onset of congestion in a network as a soft failure of the network entity where it occurs.” (See Application No. 09/395,831, page 10, lines 20-22.) Thus, claim 1 is allowable for at least two reasons. First, the priority document, which predates Makam, provides full support for the recited method. Second, Makam does not address traffic congestion and thus fails to anticipate, or even suggest the method of claim 1. For at least these reasons, claim 1 is clearly allowable over Makam. Claims 2-11 are also allowable in view of the fact that they depend from claim 1, and further in view of the recitation in each of those claims.

Claim 12 is an apparatus claim for a VPN having a working VPN path and a protection VPN path. Claims 12 recites *inter alia* a congestion detector “configured to detect traffic congestion on said working virtual network path and said data switch switches said data from said working virtual network path to said protection virtual network path when said traffic congestion exceeds a predetermined threshold.” As discussed above with respect to claim 1, Makam does not teach or suggest any mechanism for detecting traffic congestion. The Office Action, at page 4, asserts that a congestion detector is inherent as a fault detection mechanism. However, Makam discusses network failures and does not suggest traffic congestion as a form of a network failure. Furthermore, Makam explicitly states that “fault detection is outside the scope of this draft.” (See Makam, page 5.) Thus, Makam does not address traffic congestion, or suggest any structure that functions as a congestion detector, such as recited in claim 12. Finally, claim 12 is supported by the priority document. The working network path and protection network path are explicitly disclosed in Application No. 09/395,831, as described above. A switch is also explicitly disclosed (see Figure 7) as is the operation of a congestion detector. Thus, all elements of claim 12 are disclosed in the priority document except implementation in a VPN. Those skilled in the art would recognize that the teachings of the priority document can be readily applied to a VPN. Accordingly, claim 12 is clearly allowable over Makam. Claims 13-23 are also

allowable in view of the fact that they depend from claim 12, and further in view of the recitation in each of those claims.

Claim 24 is an apparatus claim that recites *inter alia* “a monitor module configured to monitor the virtual private network path to monitor traffic flow thereon, the monitor module configured to cause a switch in traffic from the working virtual private network path to the protection virtual private network path in response to a detected event selected from a group of events comprising congestion in the working virtual private network path that exceeds a predetermined threshold and link failure in the working virtual private network path.” As discussed above with respect to claims 1 and 12, nothing in Makam deals with network failure and does not suggest the detection of traffic congestion on the working virtual private network path that exceeds a predetermined threshold. Furthermore, the monitor function in a computer network having a working network path and a protection network path is explicitly disclosed in the priority document. For these reasons, among others, claim 24 is clearly allowable over Makam. Claims 25-28 are also allowable in view of the fact that they depend from claim 24, and further in view of the recitation in each of those claims.

Claim 29 is directed to a virtual private network having a router/switch and reciting *inter alia* “a monitor module configured to monitor the working virtual private network path to monitor traffic flow thereon, the monitor module configured to cause the router/switch to switch traffic from the working virtual private network path to the protection virtual private network path in response to a detected event selected from a group of events comprising congestion in the working virtual private network path that exceeds a predetermined threshold and link failure in the working virtual private network path.” As discussed above, Makam does not teach or suggest any structural element equivalent to the monitor module recited in claim 29. Specifically, Makam does not monitor traffic flow and cause the router/switch to switch traffic in the event of congestion in the working virtual private network path that exceeds a predetermined threshold, as recited in claim 29. Furthermore, the monitor function in a computer network having a working network path and a protection network path is explicitly disclosed in the priority document. For these reasons, among others, claim 29 is clearly

allowable over Makam. Claims 30-32 are also allowable in view of the fact that they depend from claim 29, and further in view of the recitation in each of those claims.

In view of the above remarks, reconsideration of the subject application and its allowance are kindly requested. The applicants have made a good faith effort to place all claims in condition for allowance. If questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 628-7640.

Respectfully submitted,

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